

New study highlights environmental, economic shortcomings of federal biofuel laws

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A new study released by researchers with the University of Tennessee Institute of Agriculture concludes that the nation's Renewable Fuels Standard is too reliant on corn ethanol as opposed to advanced biofuels. Photo depicts a corn harvest at the UT AgResearch and Education Center in Milan, Tenn. Credit: Photo courtesy UTIA.

The federal Renewable Fuel Standard (RFS) and its overreliance on corn ethanol has created additional environmental problems in its 10-year history, resulting in unmet targets for cutting air pollution, water contamination and soil erosion, concludes a new study released by University of Tennessee researchers.

In fact, the authors - Drs. Daniel G. De La Torre Ugarte and Burton C. English of the UT Institute of Agriculture - find that from an environmental and energy security perspective, the subsidies and mandates for corn ethanol would have been better and more effectively directed towards advanced biofuels.

"The anniversary offers an opportunity to thoroughly review this policy's legacy, both in terms of its impacts on the broader economy as well as the environment," said Dr. De La Torre Ugarte. "Our analysis shows that the RFS has created more problems than solutions, particularly with regard to hampering advancements in biofuels. Corn ethanol was presented as a 'bridge' to advanced biofuels and a means of reducing GHG emissions. However, the reality is clear that this policy has been a bridge to nowhere."

"Due to the RFS's inherent and structural limitations, we remain too reliant on corn ethanol," said Dr. English. "As our research demonstrates, corn ethanol along with decreased demand of transportation fuels has restricted the growth and maturation of the advanced biofuel industry, resulting in fewer environmental and economic benefits."

The authors also determined that the corn ethanol industry has received almost \$50 billion in cumulative taxpayer and market subsidies since 2005, providing evidence that the industry "cannot survive in any real commercial sense without mandated fuel volume requirements and RIN markets."

Moreover, according to the researchers, the RFS - in its current form - focuses almost exclusively on a single crop from a concentrated region of the country. Conversely, advanced biofuels represent a significantly more diverse portfolio of fuel feedstocks that can be sourced from a variety of regions and environments around the country.

"The RFS's overemphasis on corn must be revisited, and more stable solutions that encourage - rather than discourage - biofuel diversification should be pursued in order to advance the policy's original objectives," said Dr. De La Torre Ugarte.

The researchers provide policy recommendations for improving the RFS to help make the transition to advanced biofuels possible. As the report notes, for advanced biofuels to enter the market, an investment-based mechanism is necessary to overcome capital intensity and technology risk.

"After 10 years of missed objectives, it's time to rethink the structure and practical implementation of the RFS and examine other policy designs aimed at promoting the production and consumption of advanced biofuels," added Dr. English.

The report finds that because the RFS's framework continues to limit a transition from corn ethanol to advanced biofuels, the policy's projected benefits - including improved air quality and broader based economic gains - have not materialized to the extent promised. The report notes there is evidence in the literature that "the production and use of [corn ethanol](#) may actually increase smog levels and greenhouse gas emissions."

More information: To view the full report, visit the UT Bio-Based Energy Analysis Group website: beag.ag.utk.edu/pub/TenYrReviewStandard_1015.pdf

Provided by University of Tennessee at Knoxville

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